

Work Order ID 163336

163336

Tuesday, June 27, 2017 12:08:38 PM

Page 1

Item ID: 647.1511 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Lower Deflector
 Start Date: 7/4/2017 Start Qty: 6.00 *6* Cust Item ID:
 Required Date: 7/21/2017 Req'd Qty: 6.00 *6* Customer:

Reference:

Approvals: Process Plan: DAS 21 9-59 Date: JUL 03 2017 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start *NR1*
 Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
647.1500	D

100 0.00

100

Bandsaw

Jeaspa Bandsaw

BAND SAW

Memo

Cut Blank at 26.800"

*** ONE BLANK MAKES TWO PARTS***

110

110

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine per folio FB338

DWG REV: _____

FOLIO REV: _____

2- deburr and break all sharp edges

6 0 17-07-11

6 0 17-07-12

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed:

Date: SEP 27 2017

Work Order update only

Work Order: <u>163336</u> Part No. <u>647.1511</u> NCR No. <u>17-6622</u>		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Machining ☒ Small Fab ☐ Thermoforming ☐ Finishing ☐ Large Fab ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date: <u>17-07-13</u>		Step #: <u>110</u>		QTY Effective: <u>6</u>		MRB (QSI042) Approval DAS 9 9-89 <u>17-07-23</u>	
Description Work Order Deviation				Disposition		Completed By See attach email JFS.	
Chamfer .04"x45° was machine at .06"x45°				acceptable per attach email		Lead hand / Supervisor Approval Verification <u>B. 17-07-30</u>	
						QC / QA Coordinator Approval DAS 9 9-89 <u>17-07-23</u>	
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☒ Doc/Data ☐ Offset/Setup ☒ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Bending ☐ Set-up ☐ Folio/Program ☐ Outside Dimensions ☐ Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance ☒ Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect ☐ Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Part Lost/Missing ☐ Cuffs ☐ Contamination ☐ Out of Sequence ☐ Part Moved ☐ Crushing ☐ Countersink ☐ Off-set ☐ Drawing ☐ Heat Treat ☐ Cut Too Short ☐ Misabeled ☐ Finish ☐ Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Misread ☐ Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center ☐ Turning Sequence ☐					
		OTHER :					

Work Order ID 163336

Tuesday, June 27, 2017 12:08:38 PM

163336

Page 2

Item ID: 647.1511 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Lower Deflector
Start Date: 7/4/2017 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 7/21/2017 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00				6	φ		SL 17/07/12
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00		B. 17-08-04		6	φ		DAS 08 9-09
140 *140* Outsource4 Outsource process - Anodize	Outsource process-Anodize per QSI017 4.1.10.1 Memo Issue P/O to ATG : <u>37419</u> 1- Black Anodize as per Dwg 647.1500 2- PRIME AS PER DWG, SEE NOTE #2 Certification of Conformity is required	0.00 0.00				6			DAS 13 9-09 W.B 20/10/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 163336

163336

Page 3

Tuesday, June 27, 2017 12:08:39 PM

Item ID: 647.1511 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Lower Deflector
 Start Date: 7/4/2017 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 7/21/2017 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									
	1.7 mils thickness primer								
180	Identify as per dwg & Stock Location: CK 090	0.00							
180									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								

6xSP178-25

6 **DA6 38 9-89** **AUG 29 2017**

6 **DA6 38 9-89** **AUG 29 2017**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : ☐									

Work Order ID 163336

Tuesday, June 27, 2017 12:08:39 PM

163336

Page 4

Item ID: 647.1511

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Lower Deflector

Start Date: 7/4/2017 Start Qty: 6.00

6

Cust Item ID:

Required Date: 7/21/2017 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

DAS
21
9-89

AUG 29 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		☐ OTHER : _____							

Picklist Print

Tuesday, June 27, 2017 12:08:36 PM

Page 1

Work Order ID: 163336

163336

Parent Item: 647.1511

647 1511

Parent Item Name: Lower Deflector

Start Date: 7/4/2017

Required Date: 7/21/2017

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV: A NEW ISSUE JFS 14/08/19 VERIFIED BY: JLM IPP Rev.B
17.06.27 Change Mat. as per ECN17-574 DP verify DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6 5.000X0.375		Purchased	No			100	f	0.0000		7.054737			

M7075T6 5.000X0.375

**

Kt 17-07-11

7075-T6 BAR 5.000" X 0.375"

→ m137561 4.473 +1

→ m137781 2.233

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

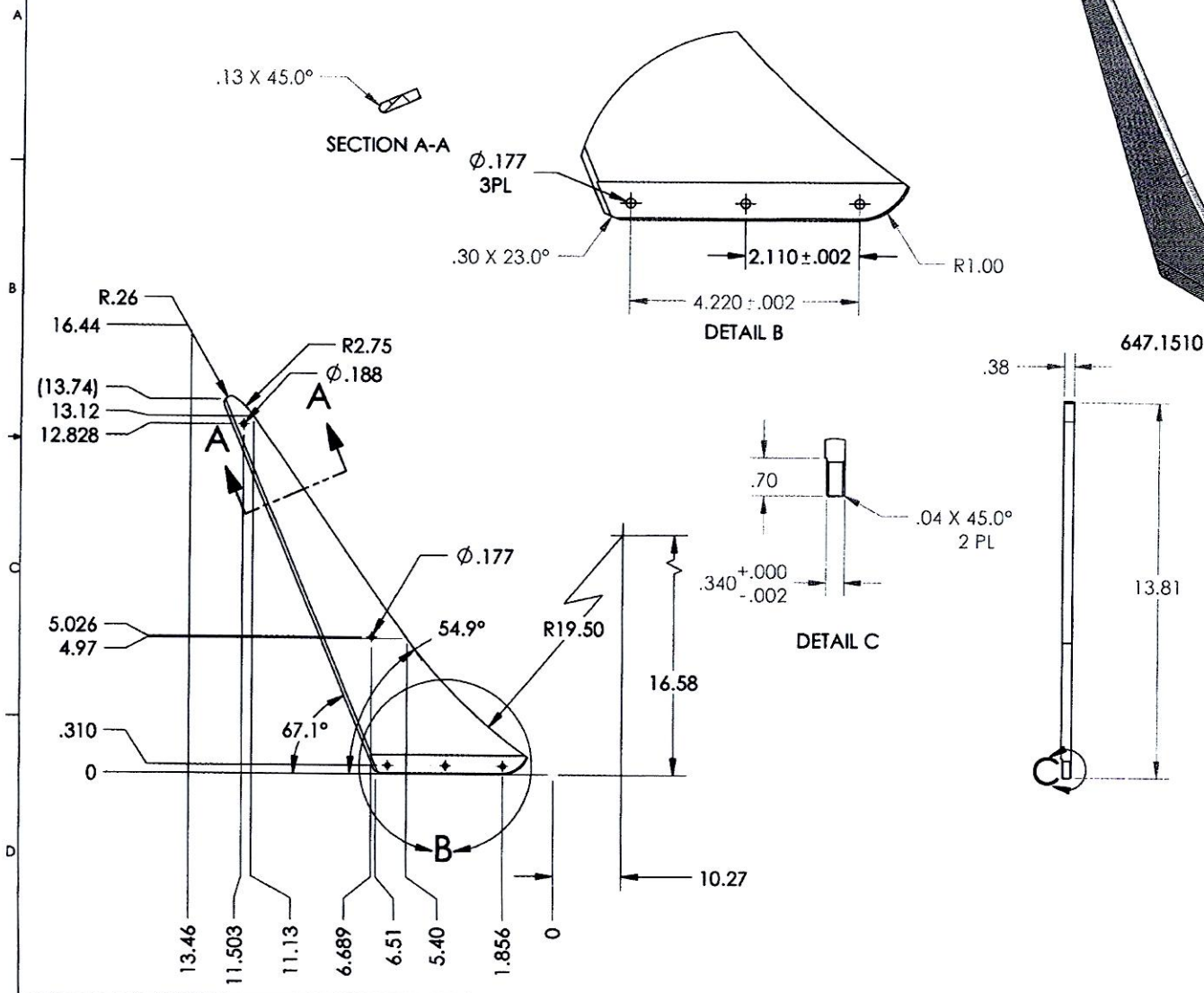
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
N/C	LAST PROTOTYPE REVISION: P1		N/C
N/C	INITIAL RELEASE	06/10/09	P. BRAVO
A	INCORPORATED ECH 02960, 04476, 04743	11/17/16	P. BRAVO
B	INCORPORATED ECH 05331	02/29/16	P. BRAVO
C	INCORPORATED ECH 05344	03/15/16	P. BRAVO
D	INCORPORATED ECH 05351	11/01/16	P. BRAVO

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH PER MPP-172 SECTION 2.1, 3.3 & 4.3, 1-2 MIL MAX
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120
- 5 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 & 3 UPON ASSY
- 6 MAKE FROM 647.1513

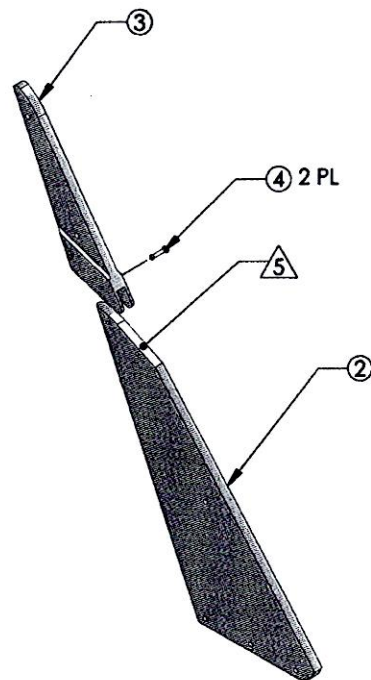


SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 163336 MJS
 170704

		7	647.1514	UPPER DEFLECTOR	△	△																																			
		6	647.1513	UPPER DEFLECTOR	△	△																																			
	A/R	5	601.2045	RTV, LOCTITE 598																																					
	2	4	600.0523	RIVET	MS20470AD4-12																																				
	1	3	647.1512	BREAKAWAY TIP	△	△																																			
	1	2	647.1511	LOWER DEFLECTOR	△	△																																			
		1	647.1510	UPPER DEFLECTOR		△																																			
	X		647.1501	LOWER DEFLECTOR ASSY		△																																			
	1501	FIND #	PART #	DESCRIPTION	MATL	SPEC.																																			
QTY		PARTS LIST																																							
NEXT ASSY (S)		DART AEROSPACE APICAL INDUSTRIES, INC. 880 DART AEROSPACE 3030 ENTERPRISE CT. SUITE A VISTA, CA, 92081 (760)-724-5300 <tr><td colspan="2">647.1400</td></tr> <tr><td colspan="2">ORIGINAL DATE 06-10-09</td></tr> <tr><td colspan="2">DRAWN BY 1. GARDNER</td></tr> <tr><td colspan="2">CHECKED P. BRAVO</td></tr> <tr><td colspan="2">DRAWING APPROVAL P. BRAVO</td></tr> <tr><td colspan="2">CONTRACT NO.</td></tr> <tr><td colspan="2">UNLESS OTHERWISE SPECIFIED</td></tr> <tr><td colspan="2">DIMENSIONS ARE IN INCHES</td></tr> <tr><td colspan="2">TOLERANCES ARE:</td></tr> <tr><td colspan="2">2 PLACE DECIMALS 1.01</td></tr> <tr><td colspan="2">3 PLACE DECIMALS 1.005</td></tr> <tr><td colspan="2">ANGLES ± .5°</td></tr> <tr><td colspan="2">SEE</td></tr> <tr><td colspan="2">CAGE CODE</td></tr> <tr><td colspan="2">DWG. NO.</td></tr> <tr><td colspan="2">647.1500</td></tr> <tr><td colspan="2">SCALE NONE</td></tr> <tr><td colspan="2">SHEET 1 OF 7</td></tr> </				647.1400		ORIGINAL DATE 06-10-09		DRAWN BY 1. GARDNER		CHECKED P. BRAVO		DRAWING APPROVAL P. BRAVO		CONTRACT NO.		UNLESS OTHERWISE SPECIFIED		DIMENSIONS ARE IN INCHES		TOLERANCES ARE:		2 PLACE DECIMALS 1.01		3 PLACE DECIMALS 1.005		ANGLES ± .5°		SEE		CAGE CODE		DWG. NO.		647.1500		SCALE NONE		SHEET 1 OF 7	
647.1400																																									
ORIGINAL DATE 06-10-09																																									
DRAWN BY 1. GARDNER																																									
CHECKED P. BRAVO																																									
DRAWING APPROVAL P. BRAVO																																									
CONTRACT NO.																																									
UNLESS OTHERWISE SPECIFIED																																									
DIMENSIONS ARE IN INCHES																																									
TOLERANCES ARE:																																									
2 PLACE DECIMALS 1.01																																									
3 PLACE DECIMALS 1.005																																									
ANGLES ± .5°																																									
SEE																																									
CAGE CODE																																									
DWG. NO.																																									
647.1500																																									
SCALE NONE																																									
SHEET 1 OF 7																																									

DART 3030 ENTERPRISE CT., SUITE A
 AEROSPACE VISTA, CA 92081
 APICAL INDUSTRIES, INC. (760)-724-5300
 DBA DART AEROSPACE

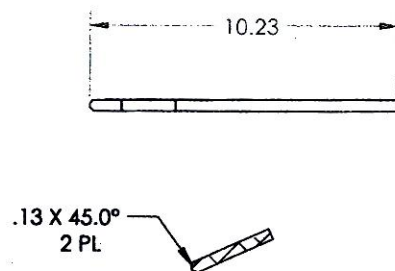
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



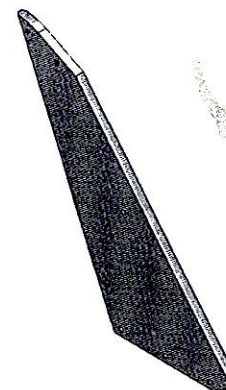
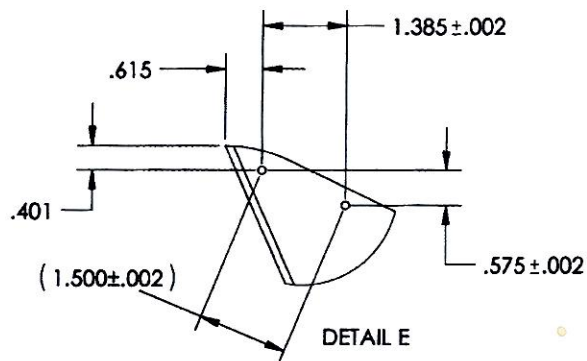
647.1501 SHOWN EXPLODED

ORIGINAL DATE 06-10-09		3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-3300	
DRAWN BY J. GARDNER		APICAL INDUSTRIES INC. DBA DART AEROSPACE	
DRAWING APPROVAL P. BRAVO 06-10-09		DEFLECTORS	
CONTRACT NO.		SCALE NONE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET B	REV. D
CAGE CODE 07M26		DWG. NO. 647.1500	
SHEET 2 OF 7		SHEET 2 OF 7	

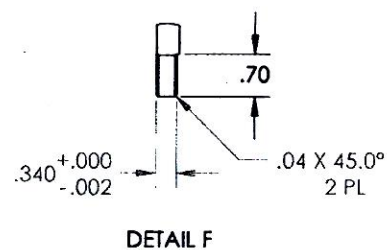
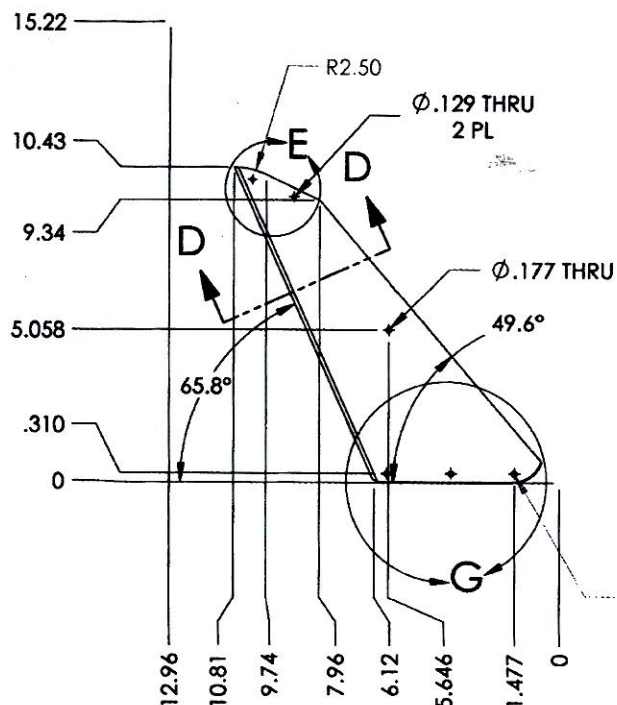
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



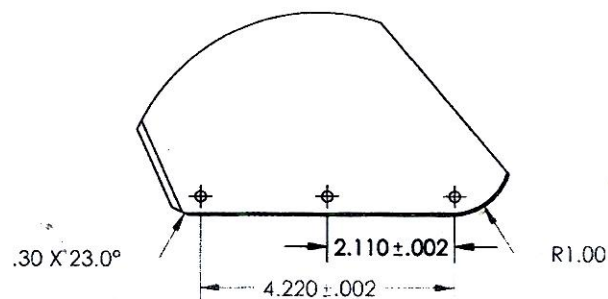
SECTION D-D



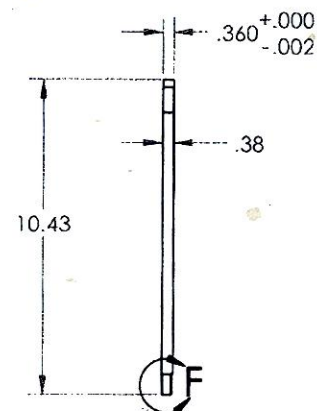
647.1511



DETAIL F



DETAIL G



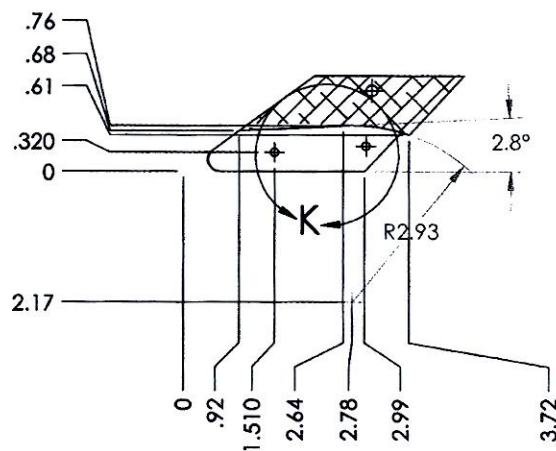
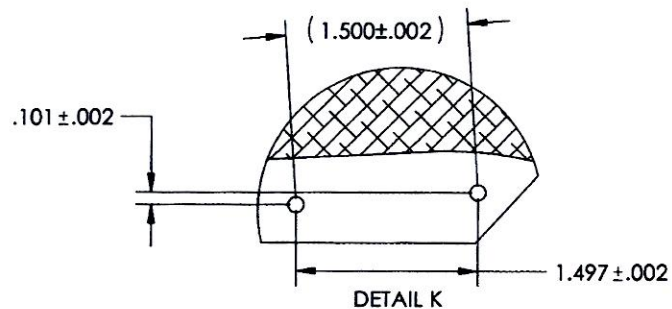
ORIGINAL DATE 10-26-90	 DART AEROSPACE AEROSPACE INDUSTRIES, INC. 3030 ENTERPRISE CT. SUITE A VISTA, CA 92081 (760)-724-5300	3030 ENTERPRISE CT. SUITE A VISTA, CA 92081 (760)-724-5300	
DESIGNED BY E. J. GARDNER P. BRAVO			
DRAWING APPROVAL P. BRAVO S. GARDNER			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE 2 PLACES DECIMALS ±0.01 3 PLACES DECIMALS ±0.005 ANGLES 1°			
SIZE B CAGE CODE 07N26 SCALE NONE		DWG. NO. 647.1500 SHEET 3 OF 7	

2 PL
13 X 45.0"

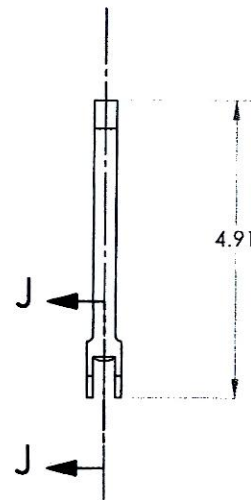
647.1512

3000 ENTERPRISE CT. SUITE 9081 WESTLAKE, CA 91361 (760) 776-5300		DEFLECTORS	
3000 ENTERPRISE CT. SUITE 9081 WESTLAKE, CA 91361 (760) 776-5300	3000 ENTERPRISE CT. SUITE 9081 WESTLAKE, CA 91361 (760) 776-5300	3000 ENTERPRISE CT. SUITE 9081 WESTLAKE, CA 91361 (760) 776-5300	3000 ENTERPRISE CT. SUITE 9081 WESTLAKE, CA 91361 (760) 776-5300

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



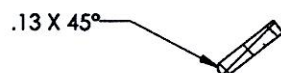
SECTION J-J



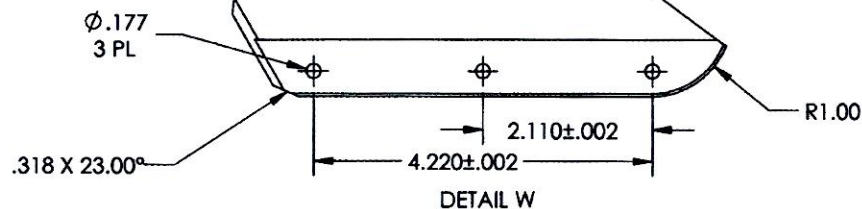
647.1512 RIGHT VIEW

ORIGINAL DATE 06-10-09		3030 ENTERPRISE CT. SUITE A VISTA, CA. 92081 (760) 724-5300	
DRAWN BY L. GARDNER		AEROSPACE	
CHECKED BY P. BRAVO		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
DATE 06-10-09		SCALE NONE	
CONTRACT NO.		SHEET 5 OF 7	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$		SIZE B	CAGE CODE 07M26
		DWG. NO. 647.1500	REV. D

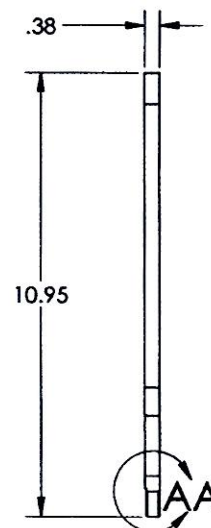
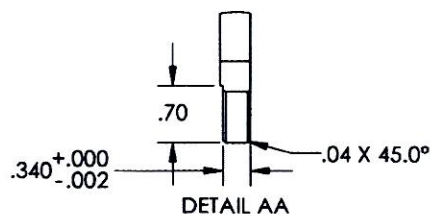
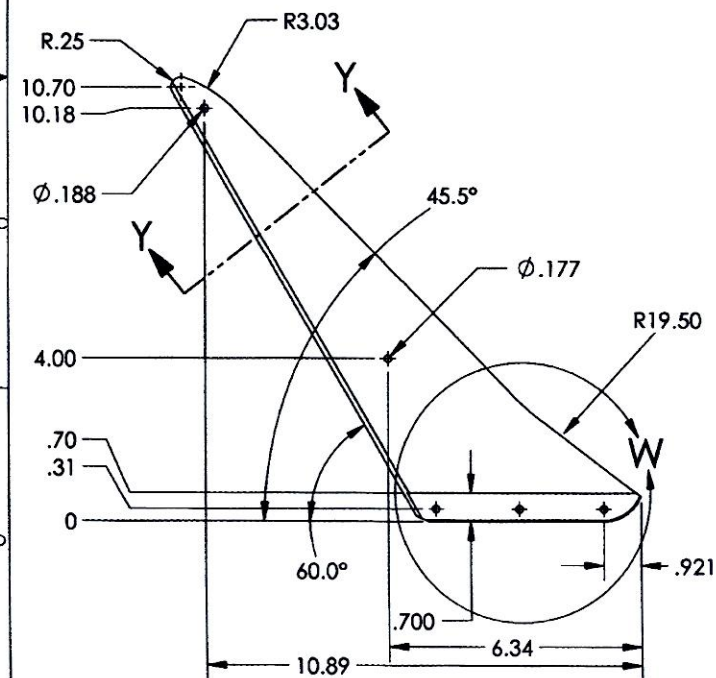
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



SECTION Y-Y



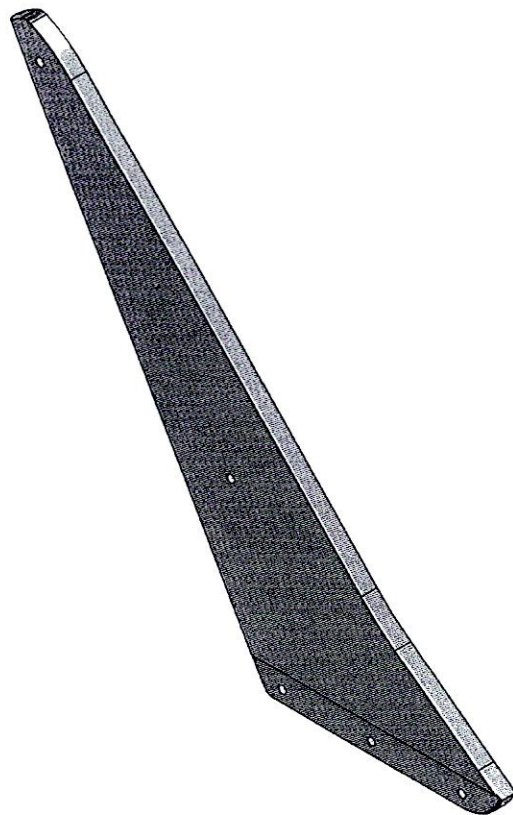
647.1513



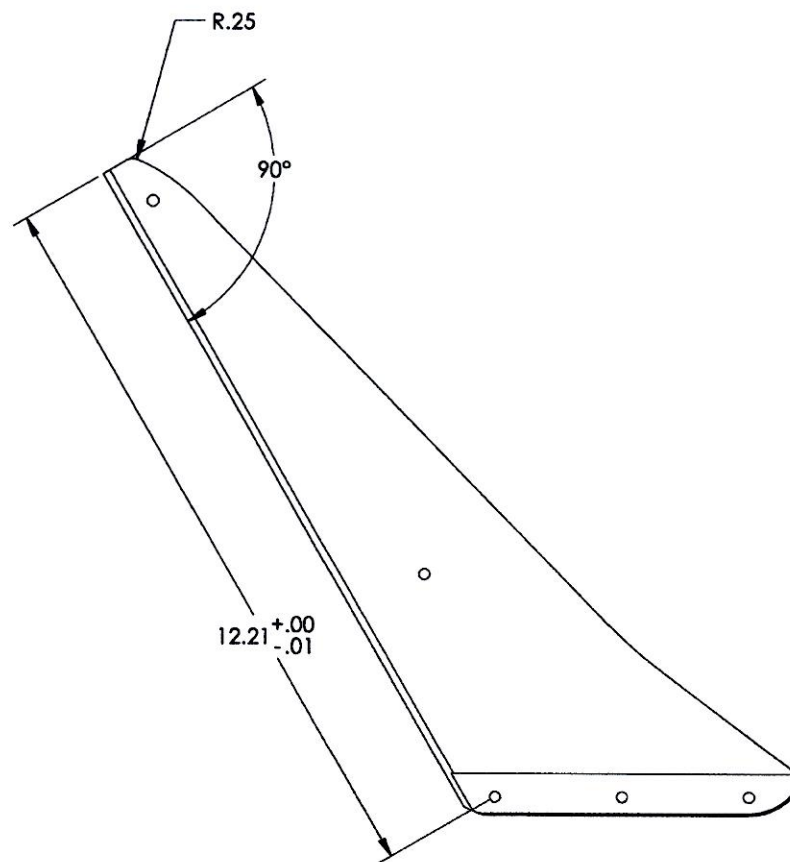
ORIGINAL DATE 1/20/09		3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 (760)-724-5300	
DRAWN BY J. GARDNER	CHECKED BY J. BRAVO	DART AEROSPACE APICAL INDUSTRIES INC. DBA DART AEROSPACE	
DRAWING APPROVAL P. BRAVO	DATE 04/10/09		
CONTRACT NO.		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SIZE B	REV D
SCALE NONE		DWG. NO. 647.1500	SHEET 6 OF 7

1 2 3 4 5 6 7 8

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



647.1514 



ORIGINAL DATE (MO-DA-YR) 06-10-09		DART 3000 ENTERPRISE CT. SUITE A VISTA, CA. 92081 (760)-724-5300 APICAL INDUSTRIES INC. DBA DART AEROSPACE	
DRAWN BY J. CHADWICK	CHECKED P. BRAVO		
DRAWING APPROVAL P. BRAVO 06-10-09		DEFLECTORS	
CONTRACT NO.		SIZE B	CAGE CODE 07M26
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.2°		DWG. NO. 647.1500	REV. D
		SCALE NONE	SHEET 7 OF 7

Patrick Duval

From: Pablo Bravo
Sent: Friday, July 21, 2017 12:40 PM
To: Jean Francois Sauve
Cc: Jason Gardiner; Patrick Duval
Subject: RE: apical deviation

JF,

Parts are okay to use as-is.

Pablo

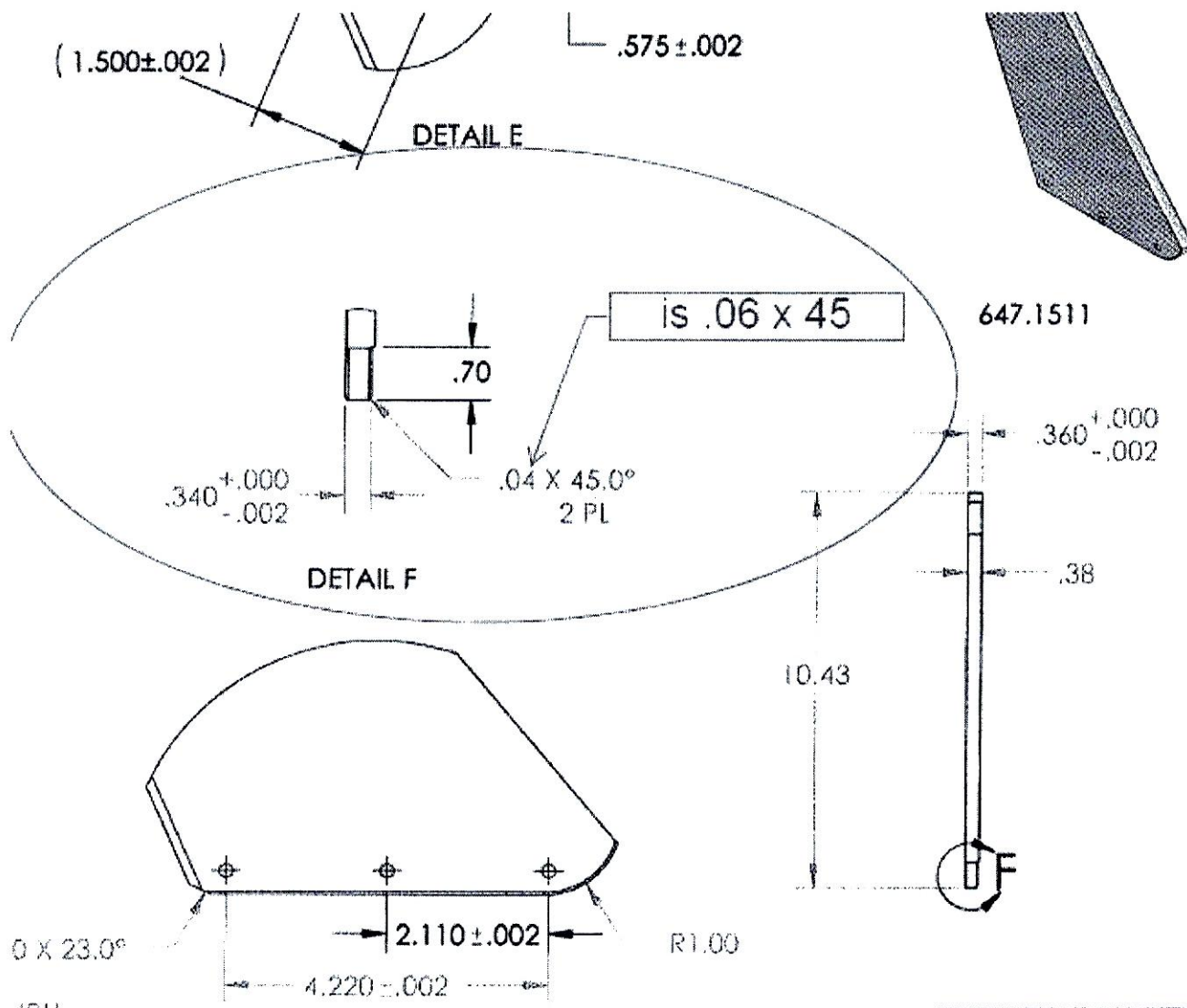
From: Jean Francois Sauve
Sent: Friday, July 21, 2017 8:12 AM
To: Pablo Bravo <pbravo@dartaero.com>
Cc: Jason Gardiner <jgardiner@dartaero.com>; Patrick Duval <pduval@dartaero.com>
Subject: RE: apical deviation

Just doing a follow up on this...

From: Jean Francois Sauve
Sent: July-19-17 8:53 AM
To: Pablo Bravo <pbravo@dartaero.com>
Cc: Jason Gardiner <jgardiner@dartaero.com>; Patrick Duval <pduval@dartaero.com>
Subject: FW: apical deviation

Hi Pablo,

Pls. see below, 6 parts are affected.



From: Patrick Duval
Sent: July-19-17 8:25 AM
To: Jean Francois Sauve <jfsauve@dartaero.com>
Subject: apical deviation

J.F.

On 647.1511 detail F on sheet 3, chamfer .04" x 45 degree was machine at .06" x 45, will this be acceptable.

Pat Duval
 QC Coordinator
 T: 1-613-632-5200 ext. 288
 F: 1-613-632-5246
www.dartaero.com
pduval@dartaero.com





Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO37419

Purchase Order Date 8/14/2017

PO Print Date 8/21/2017

Page Number 3 of 4

Order From :

VC-ATG001

Ship To : DART AEROSPACE LTD

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Ship To Contact

Ship To Phone

Ship Via:

VENDOR'S TRUCK

Ship Acct:

Buyer

Diane Baker

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Total: \$61.00

6	161210	647.4111 Doubler	8/23/2017	8.00	\$7.90	\$63.20
			No			
			8/23/2017			

As Per MPP-172 Section 2.1, Hard Anodize IAW MIL-A-8625, Type III, Class 2, Color Black
As Per MPP-172 Section 4.2
Prime IAW MIL-PRF-23377 TypeI Class N AS PER DWG 647.4100 REV. N/C

Line Total: \$63.20

7	163336	647.1511 Lower Deflector	8/23/2017	6.00	\$12.05	\$72.30
			No			
			8/23/2017			

As Per MPP-172 Section 2.1, Hard Anodize IAW MIL-A-8625, Type III, Class 2, Color Black
As Per MPP-172 Section 4.2
Prime IAW MIL-PRF-23377 TypeI Class N AS PER DWG 647.1500 REV. D

Line Total: \$72.30

8	164317	649.4813 Shim	8/23/2017	12.00	\$6.25	\$75.00
			No			
			8/23/2017			

As Per MPP-172 Section 2.1, Hard Anodize IAW MIL-A-8625, Type III, Class 2, Color Black
As Per MPP-172 Section 4.2
Prime IAW MIL-P-23377J TypeI Class N AS PER DWG 649.4800 REV. B

PO Instructions: PRIMER IS SUPPLIED BY DART

Note:

8/21/2017



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913734

Date: 23-Aug-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.			
6 ea	Part: 646.3717 Doubler Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 21580	Rev: A PO: PO37419	Line: 3
10 ea	Part: 646.3718 Custom Washer Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 21581	Rev: A PO: PO37419	Line: 4
6 ea	Part: 647.1511 Lower deflector Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0001-.0002" (1 - 2 mils) per drawing. Job: 21584	Rev: D PO: PO37419	Line: 7
12 ea	Part: 649.4813 Shim Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 21585	Rev: B PO: PO37419	Line: 8
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>23/8/17</u> Made in Canada.			

DAG
38
9-89

SPR-8-25



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913734

Date: 23-Aug-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

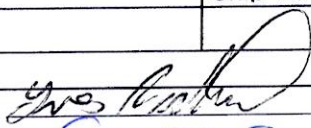
Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via
Quantity	Description	
	Certified Signature: 	
	Receiver Signature: <u>SP17-8-25</u>	
	A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited.	
	Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.	
	Made in Canada.	